STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
1315 W. 4th Avenue • Kennewick, Washington 99336-6018 • (509) 735-7581

May 26, 2000

Mr. Keith Klein
U.S. Department of Energy
P.O. Box 550, MSIN: A7-50
Richland, Washington 99352

Mr. Michael C. Hughes
Bechtel Hanford, Incorporated
2250 George Washington Way, MSIN: H0-09
Richland, Washington 99352

Re: Notice of Correction for Stabilization of the Hexone Storage and Treatment Facility USDOE DOCKET NUMBER 00NWPKM005

Dear Messrs. Klein and Hughes:

On April 25, 2000, the Washington State Department of Ecology (Ecology) conducted an inspection of the Hexone Storage and Treatment Facility (HSTF). The HSTF has been managed by the U.S. Department of Energy (USDOE) and Bechtel Hanford, Incorporated (BHI) as an unfit-for-use tank system per Federal Code of Federal Regulations (CFR), 40 CFR 265.196. However, Ecology's inspection revealed that the HSTF has not been removed from service as required by 40 CFR 265.196, and has not been managed in accordance with formal agreements made with Ecology as documented in Close Out Form #16.6.2: 40.16, signed by USDOE on December 6, 1996. Furthermore, the HSTF currently poses a safety hazard to employees as the tanks contain potentially reactive and explosive dangerous waste. The HSTF is inadequately inspected to ensure the HSTF is managed safely and the waste within the HSTF tanks remain inadequately designated per Washington Administrative Code (WAC) 173-303, Dangerous Waste Regulations.

Therefore, for the reasons stated above, Ecology herein rescinds its agreement with the provisions of Close Out Form #16.6.2: 40.16. In its place, Ecology will require the HSTF be managed per the requirements set forth in this letter. Furthermore, Ecology will require that the HSTF tanks be stabilized to remove all potential safety hazards to employees no later than December 2001. Ecology will also require increased surveillance and monitoring of the HSTF until stabilization in 2001 is achieved as described in this notice of correction letter.

Ecology's April 25, 2000, inspection revealed the following findings:

- Maintenance of an inert atmosphere (nitrogen purge) within the HSTF tanks is poorly inspected and maintained.

- Dangerous waste stored within the HSTF tanks pose a safety hazard to workers in the area, are inadequately designated per WAC 173-303-070, and are not monitored for leaks or releases to the environment.

- Other than an outdated 1992 closure plan, no activity to remove the HSTF from service and close the HSTF tanks is in place.

As a result of Ecology's April 25th inspection, USDOE and BHI have committed the following violation:

VIOLATION:

#1) 40 CFR, Subpart J, section 265.196, Response to leaks or spills and disposition of leaking or unfit-for-use tank systems.

USDOE and BHI failed to immediately remove the hexone tanks from service per 40 CFR, Subpart J, section 265.196 or close the hexone tanks per 40 CFR, Subpart J, 265.196(e), and by reference of this regulation, 40 CFR 265.197.

On September 9, 1996, Ecology signed Close Out Form #16.6.2:40.16 with USDOE which identified the hexone tanks (hexone storage and treatment facility or HSTF) as an unfit-for-use tank system subject to the requirements of 40 CFR 265.196, disposition of unfit-for-use tank systems. This Close Out Form included the following actions to ensure protection of human health and the environment: (1) use had ceased, (2) waste had been removed sufficient for protection of human health and the environment, (3) visible releases are not present, regulatory authorities had been informed of any known releases from the unit, (5) the units are scheduled for closure pursuant to the TPA, (6) inspections occur and are documented on a weekly basis, and (7) problems identified will be remedied. As such, this Close Out Form represented a formal agreement between Ecology and USDOE for safe management of the HSTF until the unit could be closed and to meet the requirements of 40 CFR, Subpart J, 265.196.

With regards to the specific actions listed in this Close Out Form, USDOE and BHI have failed to do the following:

- *Cease use of the hexone tanks (the hexone tanks currently store dangerous waste returned to them from treatment of the organic material that they originally contained).*

- *Remove sufficient waste for protection of human health and the environment (the hexone tanks currently contain inadequately designated waste which is reactive and potentially explosive).*
- *Conduct and document weekly inspections (weekly inspection of the hexone tanks does not include examination of the above ground portion of the tanks system other than reading nitrogen purge feed rotometers. Furthermore, weekly inspections are insufficient to ensure the nitrogen purge system is operating adequately due to diurnal fluctuations in barometric pressure, which in turn impacts the nitrogen purge rate).*
- *Remedy problems discovered through these inspections (weekly inspection data sheets from inspections performed in 1999 and 2000 noted loose nitrogen purge system fittings and below specification nitrogen purge rates; however, no documentation of resolution to these problems were provided in the facility's operating record).*

With regards to the requirements of 40 CFR, Subpart J, section 265.196; USDOE and BHI failed to immediately remove the hexone tanks from service and the tanks continue to store dangerous waste returned to them from treatment of the organic material that they originally contained. The operating record for the HSTF indicates that releases from the hexone tanks have most likely occurred. However, USDOE and BHI have not conducted leak tests, tank integrity examinations, soil sampling, or other examination to ensure the HSTF is not currently leaking and have failed to meet the requirements of 40 CFR, Subpart J, 265.196(e), and by reference of this regulation, 40 CFR 265.197.

In general the hexone tanks fail to meet interim status requirements for tank systems as follows:

- *WAC 173-303-070, Designation of Dangerous Waste: Distilled organic waste residues stored in the hexone tanks since 1992 have not been sampled or analyzed to accurately designate the waste a dangerous or extremely dangerous waste per the procedures set forth in WAC 173-303-070. Documentation of the hexone tank waste indicates reactive or explosive constituents may be present in the waste currently stored in the hexone tanks.*
- *WAC 173-303-283, Performance Standards: The waste stored within the hexone tanks presents a credible risk of explosion or fire; however, the tanks have not been monitored, inspected, or managed adequately to prevent endangerment of the health of employees near the facility per WAC 173-303-283(3)(i).*
- *WAC 173-303-300, General Waste Analysis: The waste stored within the hexone tanks has not been sampled and analyzed to confirm the owner or operator's knowledge of the waste sufficient to properly manage the waste per WAC 173-303-300(1)(2)(4) and (5).*
- *WAC 173-303-320, General Inspection: Weekly inspections of the HSTF have not been adequate to prevent malfunctions and deterioration of facility equipment essential for maintaining safe storage of the waste within the hexone tanks. Nitrogen purge flow is inspected weekly; however, nitrogen flow rates can vary daily due to barometric pressure changes. Some inspection data sheets record nitrogen purge rates below the minimum required rate for safe management of the waste with no indication of how ling this condition had persisted to have dropped below essential safety limits on weekly inspection data sheets.*

Some weekly inspection data sheets indicate leaks of the nitrogen purge system and other mechanical deficiencies with the nitrogen purge system; however, there is no indication if or how these deficiencies were corrected. There is no written inspection schedule specifying inspection of tank components per WAC 173-303-640 and the inspection schedule indicates ongoing surveillance of monitoring equipment that does not exist (i.e,. liquid level monitoring in the hexone tanks).

- *WAC 173-303-330, Personnel Training: The training plan for the HSTF fails to identify all employees by position, job title, and name for each job at the HSTF and does not include an adequate written description of the introductory and continuing training required for each position at the HSTF per WAC 173-303-330(2).*
- *WAC 173-303-350, Contingency Plan and Emergency Procedures: At the time of Ecology's inspection the contingency plan maintained at the entrance to the HSTF was not the current contingency plan for the facility per WAC 173-303-350(2)&(4). Current contingency planning fails to sufficiently address known explosion and fire hazards associated with the HSTF per WAC 173-303-350(1)&(3).*
- *WAC 173-303-380, Facility Recordkeeping: The operating record for the HSTF is incomplete with some records missing. Records describing resolution of deficiencies discovered through facility inspections are incomplete or non-existent and fail to meet the requirements of WAC 173-303-380(1)(e)&(f). Recordkeeping for the HSTF fails to include accurate waste volumes within the hexone tanks, accurate shipment records of waste transferred from the hexone tanks, accurate reporting of leak tests and discharges to the soil from the hexone tanks per WAC 173-303-380(1)&(2).*
- *WAC 173-303-390, Facility Reporting: The HSTF Closure Plan has not been revised since 1992 and fails to provide current closure cost estimate information for annual reporting per WAC 173-303-390(2)(f).*
- *WAC 173-303-395, Other General Requirements: The HSTF has not been managed adequately to prevent accidental ignition or reaction of ignitable or reactive waste per WAC 173-303-395(1)(a). Documentation available for the organic wastes stored within the HSTF reveal this waste may contain potentially explosive and ignitable components. However, the waste has not been sampled or analyzed to verify whether this potentially dangerous condition persists or not. The HSTF has not been inspected annually to the requirements of WAC 173-303-395(c). The HSTF's nitrogen purge system has received only one line test examination since its installation in 1992, oxygen content within the hexone tanks is not monitored, and weekly inspections conducted at the HSTF are insufficient to ensure the nitrogen purge is operating at its specified rate.*
- *WAC 173-303-640, Tank Systems: The hexone tanks within the HSTF have not been assessed to determine their integrity per WAC 173-303-640(2). The hexone tanks are direct buried steel tanks without secondary containment or leak detection per WAC 173-303-640(4)(a), (b), (c), & (d). The hexone tanks contain potentially ignitable or explosive wastes that could cause the tanks to fail; however, the controls and practices (i.e., inspections and maintenance of the nitrogen purge system) in place at the HSTF to prevent spills from the system resulting from an explosion or fire fail to meet the requirements of WAC 173-303-640(5)(a) & (b). The hexone tanks are not provided with corrosion protection (i.e., cathodic protection) and are not managed to prevent corrosion per WAC 173-303-640(5)(a). The owner and operator of*

the HSTF have not developed or followed an inspection schedule per WAC 173-303-640(6) and failed to adhere to or revise an agreement with Ecology to perform weekly inspections of the HSTF to meet the requirements of WAC 173-303-640(6). Weekly inspection of the HSTF conducted since at least 1996 recorded that the tank system was not leaking based on inspection of non-existent liquid level monitoring equipment. The HSTF is n unfit-for-use tank system; however, the HSTF has not been removed from service per WAC 173-303-640(7)(b).

In order to correct the violations identified in this Notice of Correction, please complete the following corrective measures within the time frames specified. Failure to correct the violations described in this letter may result in the issuance of an administrative order and/or penalties per RCW 70.105.080. A request for additional time to complete the corrective measures identified in the Notice of Correction must be in writing, describe the reasons for the request for additional time, and be received by me for consideration no later than June 9, 2000.

CORRECTIVE MEASURE:

#1) 40 CFR, Subpart J, section 265.196, Response to leaks or spills and disposition of leaking or unfit-for-use tank systems.

Immediately upon receipt of this letter, USDOE and BHI must conduct daily inspections of the HSTF nitrogen purge system rotometers. These daily inspections must document the readings as found on both HSTF rotometers and document the adjusted flow rate upon completion of each daily inspection. Each inspection must include the date and time of the inspection and signature of the inspector. Original completed and signed inspection sheets must be maintained in the HSTF's operating record and be made available to Ecology inspectors immediately upon request. Should stabilization of the HSTF tanks be postponed beyond the terms set forth in this Notice of Correction Ecology may require continuous oxygen content monitoring of the vapor space within each HSTF tank until the HSTF is stabilized.

Within thirty days (30) of receipt of this letter, USDOE and BHI must complete the following actions:

- Submit a plan and schedule to Ecology for approval for stabilization of the HSTF tanks on, or before, December 2001. Stabilization of the HSTF must include removal or deactivating the waste stored within the HSTF tanks per all applicable regulations. Should the HSTF tanks remain in place after stabilization, this plan and schedule must describe installation and implementation of monitoring of the HSTF tanks at a frequency agreeable to Ecology and sufficient to monitor organic vapors and oxygen content within the vapor space of each HSTF tank. Should the HSTF tanks remain in place after stabilization, this plan and schedule must also describe installation and implementation of monitoring for intrusion of liquids into each HSTF tank at a frequency agreeable to Ecology. This plan and schedule must include a conceptual proposal for closure of the HSTF; however, a revised closure plan for the HSTF is

not required at this time. All closure proposals must be coordinated with Ecology and the U. S. Environmental Protection Agency, Region 10.

- The plan and schedule described above must include submittal to Ecology by December 2000 of a written description of all costs, engineering evaluations, data quality objectives, sampling and analysis plans, and any other relevant documentation or planning required to complete stabilization of the HSTF on or before December 2001. This submittal will be subject to approval by Ecology.

- USDOE and BHI must implement monthly inspections of the above-ground portions of the HSTF to include inspection of all nitrogen purge feed lines to the HSTF tanks and all exhaust system ventilation lines from the HSTF tanks sufficient to ensure they are not leaking, that all fittings are tight, and the system is operating properly. These inspections may consist of "snoop" testing with soapy water, pressure testing of nitrogen feed lines, or other means sufficient to detect leaks from the HSTF nitrogen feed and ventilation system. Each inspection must include the date and time of the inspection and signature of the inspector. Original completed and signed inspection sheets must be maintained in HSTF's operating record and be made available to Ecology inspectors immediately upon request. These monthly inspections must be conducted until the HSTF tanks are stabilized.

Please complete and return the enclosed Certificate of Compliance to me by June 19, 2000. If you have any questions regarding this letter, please contact me at (509) 736-3031.

Sincerely,

Bob Wilson

Bob Wilson, Compliance Inspector
Nuclear Waste Program

cc: Craig Cameron, EPA
Tom Ferns, USDOE
Steven Wisness, USDOE
Moses Jaraysi, BHI
Mary Lou Blazek, OOE
Administrative Record: HSTF

CERTIFICATE OF COMPLIANCE

As a legal representative of the U.S. Department of Energy, I certify to the best of my knowledge, the completion of items requested by the Washington State Department of Ecology on May 26, 2000, with regard to the inspection of the Hexone Storage and Treatment Facility located on the Hanford Site, Facility ID number WA 7890008967 as shown below.

COMPLIANCE STATUS

Corrective Measure	Date Due	Date Complete	Initials	Comments
#1	06/26/00			

Signature, USDOE-RL Representative Date